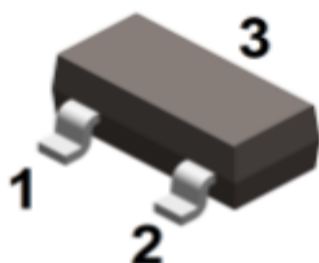


### Features

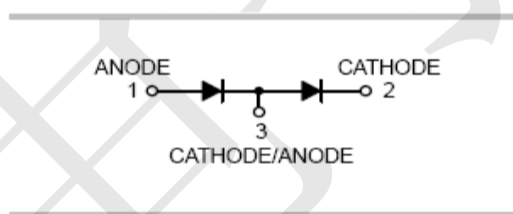
- Fast switching speed
- High conductance
- RoHS compliant with Halogen-free



**SOT-23**

### Mechanical Data

- Case: SOT-23
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



### Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter                                             | Symbol    | Value | Unit |
|-------------------------------------------------------|-----------|-------|------|
| DC Blocking Voltage                                   | $V_R$     | 100   | V    |
| Average Rectified Output Current                      | $I_F$     | 200   | mA   |
| Forward Continuous Current (Max.)                     | $I_{FM}$  | 600   | mA   |
| Peak Forward Surge Current, 1ms Single Half-sine-wave | $I_{FSM}$ | 2     | A    |
| Peak Forward Surge Current, 1s Single Half-sine-wave  | $I_{FSM}$ | 1     | A    |
| Recurrent Peak Forward Current                        | $I_{FRM}$ | 700   | mA   |

### Thermal Characteristics

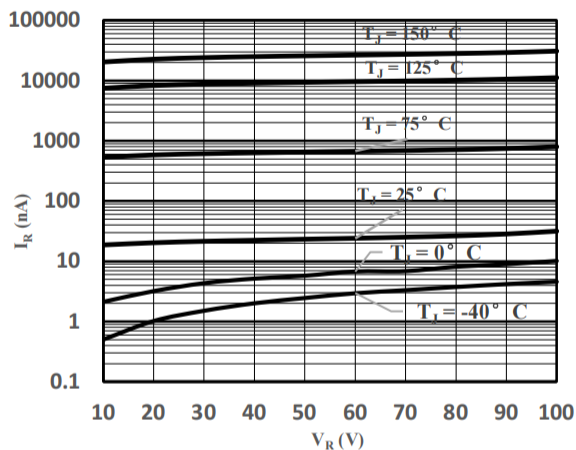
| Parameter                              | Symbol          | Value      | Unit |
|----------------------------------------|-----------------|------------|------|
| Power Dissipation                      | $P_D$           | 350        | mW   |
| Thermal Resistance Junction-to-Air *1  | $R_{\theta JA}$ | 342        | °C/W |
| Thermal Resistance Junction-to-Case *1 | $R_{\theta JC}$ | 208        | °C/W |
| Thermal Resistance Junction-to-Lead *1 | $R_{\theta JL}$ | 187        | °C/W |
| Operating Junction Temperature Range   | $T_J$           | -55 ~ +150 | °C   |
| Storage Temperature Range              | $T_{STG}$       | -55 ~ +150 | °C   |

### Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

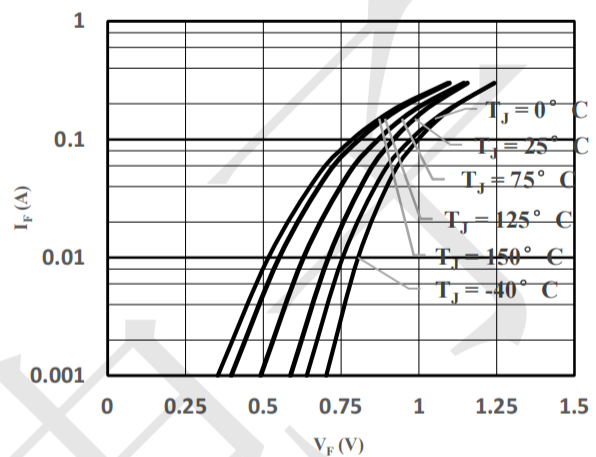
| Parameter                    | Symbol      | Test Condition                                                                     | Min. | Typ. | Max. | Unit          |
|------------------------------|-------------|------------------------------------------------------------------------------------|------|------|------|---------------|
| Reverse Breakdown Voltage    | $V_{(BR)R}$ | $I_R = 100\mu\text{A}$                                                             | 100  | -    | -    | V             |
|                              |             | $I_R = 5\mu\text{A}$                                                               | 75   | -    | -    | V             |
| Forward Voltage              | $V_F$       | $I_F = 10\text{mA}$                                                                | -    | -    | 1    | V             |
| Maximum Peak Reverse Current | $I_R$       | $V_R = 20\text{V}$                                                                 | -    | -    | 25   | nA            |
|                              |             | $V_R = 75\text{V}$                                                                 | -    | -    | 5    | $\mu\text{A}$ |
| Total Capacitance            | $C_J$       | $V_R = 0\text{V}, f = 1.0\text{MHz}$                                               | -    | -    | 4    | pF            |
| Reverse Recovery Time        | $t_{rr}$    | $I_F = 10\text{mA}, V_R = 6\text{V}$<br>$I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ | -    | -    | 4    | ns            |

Note 1: The data tested by surface mounted on a 15mm \* 15mm \* 1mm FR4-epoxy P.C.B

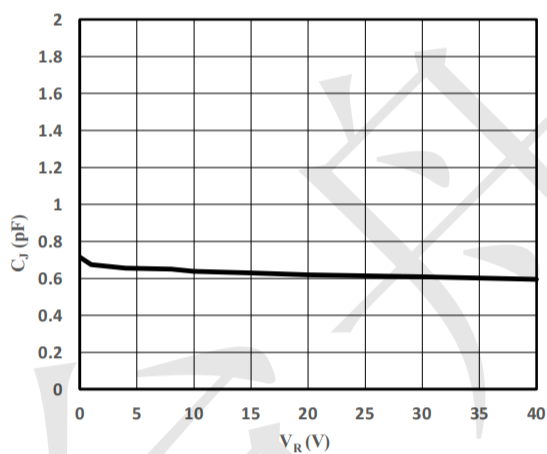
**Ratings and Characteristics Curves** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)



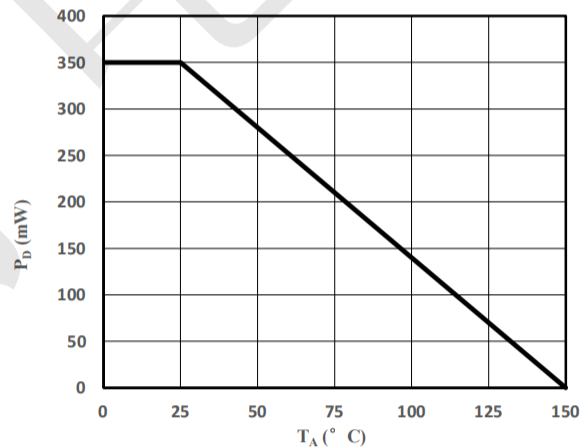
**Fig 1 Typical Reverse Characteristic**



**Fig 2 Typical Forward Characteristics**

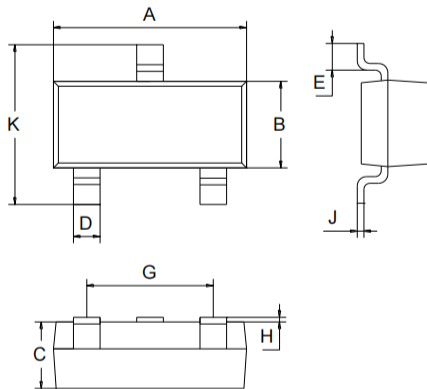


**Fig 3 Capacitance vs. Reverse Voltage**



**Fig 4 Power Derating Curve**

**Package Outline Dimensions** (Unit: mm)



| SOT-23    |      |      |
|-----------|------|------|
| Dimension | Min. | Max. |
| A         | 2.70 | 3.10 |
| B         | 1.10 | 1.50 |
| C         | 0.90 | 1.10 |
| D         | 0.30 | 0.50 |
| E         | 0.35 | 0.48 |
| G         | 1.80 | 2.00 |
| H         | 0.02 | 0.10 |
| J         | 0.05 | 0.15 |
| K         | 2.20 | 2.60 |

**Package Outline Dimensions** (Unit: mm)

**SOT-23**

